

REMARKS

This is in response to the Office Action of January 16, 2008. Independent claims 1 and 3 are limited to embodiments in which the variable "R" represents a hydrocarbon group having 3 to 6 carbon atoms. Claim 5 is rewritten for greater clarity. This is a non-narrowing amendment. Claim 7 is rewritten as two claims, both independent of claims 1 and 2. Amended claim 7 corresponds to former claims 7/3/1 and 7/4/1. New claim 8 corresponds to former claims 7/3/2 and 7/4/2. That is, the monomers of claim 1 and claim 2 are recited, respectively, in polymer claims 7 and 8. No new matter or additional subject matter is introduced into the application by this Amendment. Claims 1-8 as amended are pending in the application.

Anticipation

Claims 1-7 were rejected under 35 U.S.C. § 102(b) as being anticipated by US 5,478,918 (Maruta). Office Action, pages 2-3. The rejection is respectfully traversed.

Maruta generically teaches reacting tetracarboxylic acid and diamine precursor compounds to form polyamic acids and polyimides. However, the Maruta reference fails to show polyamic acid structural formulas such as Applicants' formula (1) and polyimide structural formulas such as Applicants' formula (3). Maruta fails to disclose any specific composition which falls within the scope of Applicants' claims. According to MPEP 2131.02, disclosure of a genus may anticipate a species falling within that genus but not expressly disclosed only if a person of ordinary skill in the art would "at once envisage" the claimed compound from the disclosed genus. Applicants respectfully submit that a person of ordinary skill in the art would not at once envisage the presently claimed compounds from the genus disclosed by Maruta.

Near the bottom of page 2 of the Office Action, the Examiner refers to a disclosure in Maruta of a 2,2'-substitued-4,4'-benzidine which may have methoxy or ethoxy substituents on its phenyl rings. Applicants are not claiming such benzidines. Moreover, Applicants' claims as

amended exclude the possibility of methoxy or ethoxy substituents on the phenyl rings in formulas (1) and (3).

The anticipation rejection should be withdrawn.

Obviousness

Claims 1-7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Maruta. Office Action, pages 3-5. The rejection is respectfully traversed.

First, all claim limitations must be considered and there is no disclosure of all claimed features of the present invention, as discussed above. MPEP 2143.03. Second, to the extent that the Maruta disclosure raises a *prima facie* case of obviousness with respect to the present invention – which Applicants do not concede – any such *prima facie* case of obviousness is overcome by the unexpected beneficial properties that are provided by the present invention.

In Applicants' specification, Comparative Examples 1-3 are examples which use diamines whose R is CH₃O in the formula (I) in Maruta. Examples 9-14 are examples which use diamines whose R is C₆H₅O. Examples 1 through 4 in Applicants' specification relate to embodiments in which the variable "R" in Applicants' formulas is ethoxy, while Applicants' Examples 5 through 8 relate to embodiments in which the variable "R" is propoxy (i.e., OC₃H₇). As is clearly demonstrated in Table 2 on page 26 of the specification, Examples 1 through 4, which are unarguably excluded by the present claims, provide coefficient moisture absorption values which average 1.2 wt-%. In surprising contrast thereto, Examples 5 to 8 – which are covered by the present claims – provide desirable low coefficient of moisture absorption values averaging less than 0.7 wt-%. In other words, the ethoxy embodiments have coefficient moisture absorption values that average 70% higher (that is, worse) than the average coefficient moisture absorption values of the presently claimed propoxy embodiments. Table 2 also demonstrates that the coefficient of humidity expansion (CHE) is improved in Applicants' invention. In other words, the present invention achieves both low CTE and low CHE.

Nothing in the Maruta reference teaches or suggests this unexpected beneficial aspect of the presently claimed invention. Accordingly, the obviousness rejection should be withdrawn.

Information Disclosure Statement

The Examiner is respectfully requested to acknowledge the IDS which was filed herein on September 25, 2006.


Contact information

If there are any questions concerning this application, the Examiner is invited to contact Richard Gallagher, Registration No. 28,781, at (703) 205-8008.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.147; particularly, extension of time fees.

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Respectfully submitted,

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